

09/679,461

Claim Rejections – 35 U.S.C. § 102

Claim 32 has been rejected under 35 U.S.C. 102(b) as being anticipated by Bauman et al. (US patent no. 5,875,472). This rejection is respectfully traversed.

Applicant's claim 32 recites:

"An apparatus comprising:
a number of host applications;
a memory device; and
a memory interface device interposed between the host applications and the memory device and operably coupled to receive memory access requests from the number of host applications, interact with the memory device on behalf of the number of host applications for servicing the memory access requests, and provide result/status information to the host applications."

Thus, the Applicant's claimed invention provides a memory interface that acts on behalf of host applications and provides result and status information back to the host applications. One implementation of the Applicant's claimed invention can inform host applications, for example, as to whether a particular memory access request has been completed.

In contrast, Bauman discloses a caching system employing an address conflict detection scheme. In Bauman, processors directly forward memory requests to a storage controller. No result/status information is returned to the processors, presumably because it is not needed. Note in particular Figure 3 of Bauman, showing input logic 104. There is clearly no return path shown that would suggest the provision of result/status information back to the processor.

Thus, Bauman fails to teach or suggest the Applicant's claimed invention, wherein a memory interface interacts with a memory device on behalf of a number of

09/679,461

host applications, and provides result/status information to the host applications. Therefore, the Applicant respectfully requests that the rejection be withdrawn, and the Applicant asserts that Claim 32, and its dependent claims 33 – 48, are in condition for allowance.

Claim Rejections – 35 U.S.C. § 103

Claims 1, 3-12, 14, 17, 19-31, 33, and 35-37 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Bauman in view of Hughes (US patent no. 5,784,582). This rejection is respectfully traversed.

1. No motivation can be found for the combination suggested in the Office Action

In order to properly support a rejection under 35 U.S.C. §103, a motivation for modifying the references as suggested in the Office action must be supported by the references. The Applicant respectfully submits that that is not the case in this instance.

Bauman clearly states that its purpose is to provide an improved conflict detection system (Abstract, Background). Bauman points out that the comparison of full addresses for outstanding requests is a problem (Background, Col. 2 line 49 – Col. 3 line 4). The purpose of Bauman is to solve this problem by comparing pointers instead of full addresses (Col. 4 lines 1-4).

Hughes discloses an SDRAM controller that can be configured to minimize latency or maximize bandwidth. Hughes does not provide any suggestion as to how the comparison of full addresses might be addressed; in fact, Hughes does not address

09/679,461

conflict detection at all. Thus, one skilled in the art with knowledge of Bauman would not be motivated to look to Hughes at all.

2. *The combination of Hughes with Bauman fails to teach or suggest the Applicant's claimed invention.*

Applicant's independent claim 1 recites:

"A memory interface device for interfacing a number of host applications to a memory device, the memory interface device comprising:

a host interface for interfacing with a number of host applications;
a memory interface for interfacing with a memory device;
a number of contexts operably coupled to the host interface for receiving memory access requests from the number of host applications and providing result/status information to the number of host applications;
and

control logic operably coupled to obtain memory access requests from the number of contexts, interact with the memory device over the memory interface for servicing the memory access requests on behalf of the number of host applications, and provide the result/status information to the number of host applications via the number of contexts."

As was previously described with regard to claim 32, Bauman fails to teach or suggest contexts for providing result/status information back to a number of host applications. Even if there were any motivation to combine Hughes with Bauman (which Applicant maintains there is not), the resultant combination presents the same failing. Hughes does not teach or suggest a context, or control logic, for providing result/status information to a number of host applications. In fact, Hughes teaches away from doing so: see particularly Hughes Col. 14 lines 31-34:

"The end of data transfer is not indicated, and the requesting interfaces are required to obey the address and size fields asserted with the data transfer request".

09/679,461

Thus, no combination of Hughes with Bauman teaches or suggests the Applicant's claimed contexts, or control logic, for providing result/status information back to a number of host applications. The Applicant therefore respectfully requests that the rejection be withdrawn, and the Applicant asserts that claim 1 and its dependent claims 2-16 are in condition for allowance.

The Applicant's independent claim 17 recites program logic which includes contexts and control logic for providing result/status information to a number of host applications, as is similarly recited in claim 1. The Applicant therefore respectfully asserts that claim 17 and its dependent claims 18 – 31 are in condition for allowance, for the same reasons as set forth with regard to claim 1.

09/679,461

Conclusion

Accordingly, Applicant asserts that all the pending claims 1 – 48 are in condition for allowance. An indication of such is respectfully requested. Should further questions arise concerning this application, the Examiner is invited to call Applicant's attorney at the number listed below.

Respectfully Submitted,



Mary M. Steubing
Reg. No. 37,946
Attorney for Applicant
41 Jewett Street
Pepperell, MA 01463
(978) 433-2323

October 26, 2002